TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. 1000605

I. INTRODUCTION

BHP Pinto Valley operates a mining and milling operation located near Miami, Arizona. The operation consists of an open pit mine which currently produces a total of approximately 165,000 tons per day of mining material. The mine produces material for both the concentrate circuit and the solvent extraction/electrowinning (SX/EW) circuit. The concentrate circuit produces copper and molybdenum concentrate. The SX/EW circuit produces cathode copper.

The concentrator currently mills and floats approximately 65,000 tons per day of about 0.4% or lower copper ore resulting in about 264,000 tons of annual copper concentrate feed for the San Manuel Smelter. This results in a production of approximately 160,000,000 pounds of copper per year.

Approximately 50,000 tons per day of leachable ore is mined, resulting in SX-EW production of about 18,000,000 pounds of copper annually.

The source has the "potential to emit" more than 100 tpy of PM-10 annually. The source will thus be classified as being "major" and will get a Class I permit.

A. Company Information

Facility Name: BHP, Inc. - Pinto Valley Operation, Pinto Valley Unit

Mailing Address: P.O. Box 100
Miami, AZ 85539

Facility Address: 8 miles west of Miami, off U.S. Highway 60.

Responsible Official: Jack D. Conklin
Manager, Pinto Valley Operations

B. Attainment Classification

BHP Pinto Valley is currently located in a non-attainment area for sulfur dioxide and

PM10.

II. PROCESS DESCRIPTION

The mining operation is carried out in four phases: drilling, blasting, loading and hauling. During this process, material is classified as being ore or leachable waste. Ore grade material, currently classified as material containing approximately 0.27% copper, is transported to the primary crushing facility for further processing in the concentrator operations. Leachable waste is transported to dumps where the copper content is leached and the pregnant solution is further processed at the SX/EW facilities.

Drilling and Blasting - The short range mining plan is determined by mine engineers on a daily basis. Blasts are designed for the particular area, depending on the hardness of the ground and whether the material is ore or waste.

Loading - The mining operation is capable of moving approximately 55 to 60 million tons per year of ore and waste. Loading is accomplished with the use of five electric shovels, one with a 25 cubic yard bucket, three with 20 cubic yard dippers, and one with 15 cubic yard capacity. A rubber tired loader with a 20 yard bucket is also utilized.

Hauling - The current haulage fleet consists of 19 Dresser 685 190 -ton diesel electric trucks. Each truck hauls approximately 15 loads per 8 hour shift.

The concentrator operation consists of 3 stage crushing, single-stage closed circuit grinding, flotation, grinding of rougher concentrate and 2 stage cleaning of concentrates. The process begins with an ore containing about eight pounds of copper per ton, and ends with a concentrate containing about 600 pounds of copper per ton.

Primary Crushing Plant - Haul trucks dump the ore directly into the primary crusher which reduces the large rocks to approximately 8 inches in size. The crushed ore is then taken from the bin below the crusher by conveyor to the coarse ore storage pile which has a storage capacity of 33,000 tons. The coarse ore travels by conveyor to the fine crushing plant where it is reduced from about eight inches to less than one-half inch. This fine ore is then carried by conveyor to the fine ore bins.

Grinding and Flotation - The fine ore is fed by conveyors into six ball mills loaded with three and a half inch round steel balls, water, and reagents in order to grind it to a size which will “free” the copper and molybdenum (moly) bearing minerals from the “gangue” (valueless rock). The next step, flotation, is divided into approximately three equal parts consisting of a rougher cell and a cleaner cell section. In flotation, agitators are located in rows of long open-topped tanks. These

agitators draw air into the slurry to make a froth which picks up the copper and moly particles and floats them away from the unwanted gangue. The slurried gangue passes through the tanks and is referred to as tailings.

A "rough" float is made in the flotation process, thus the name roughers. Then two more cleaning floats are made to produce a concentrate which is about 30% copper and 0.7% moly. Another grinding step called regrinding is required between the rougher and cleaner floats to free the copper and moly minerals for final upgrading.

Copper Moly Thickeners - The copper-moly concentrate flows into two large diameter tanks called thickeners. The purpose of the thickeners is to allow the solids to settle to the bottom and be drawn out as a slurry while clear water is recovered.

Molybdenite (Moly) Flotation - The thickened slurry is pumped to the moly plant where a separate molybdenite concentrate is made. During the copper floatation process, the concentration of copper is raised to about 30% copper while the moly goes up to about 0.7% molybdenite. At this grade, it becomes economical to separate the moly from the copper. Another flotation process is used which causes the moly to float but not the sulfide copper. The final moly concentrate is loaded into 55 gallon drums.

Copper Concentrate - The tailings from the moly flotation process becomes the final copper concentrate. It is thickened again in another thickener and then pumped 11 miles through a pipeline to the filter plant near the town of Miami. Most of the water is separated from the copper concentrate in the filter plant. Large, rotating disks covered with cloth and under a vacuum are turned in a tank containing the copper slurry. The water is drawn through the cloth and the concentrate is discharged as the disk rotates over a chute. The concentrate, containing about 10% moisture, is then hauled by truck to a smelter were it is processed into copper metal.

Tailings - Tailings from the copper flotation circuit flow by gravity to three large, 350 foot diameter thickeners. The underflow from these thickeners flows down a large pipeline to the tailings dam. The overflow or clear water is pumped back to the grinding circuit.

At the tailings dam, cyclone classifiers are used to separate coarse sand which falls in piles to make a dam. Fine slimes flow to the back of the dam area. A pond of water is also formed at the rear of the dam, and the water is pumped back to tanks for recycle into the grinding circuit.

Solvent Extraction - Electrowinning

The SX/EW plant is designed to recover acid soluble copper from leach solutions. Copper laden

or pregnant leach solution (PLS) is collected below the mine leach dumps at the Gold Gulch No. 1 PLS pond. The PLS is pumped through an 18-inch diameter pipeline from Gold Gulch No. 1 to the SX-EW plant one mile away.

The solvent extraction portion of the process consists of a train of mixer-settlers, some of which are extractor cells and some of which are stripper cells. In the extractor cells, copper is removed from the PLS by mixing it with a kerosene diluent containing the organic extraction reagent. The blended organic loaded with copper is separated from the aqueous portion of the PLS by gravity with the barren aqueous portion, now referred to as raffinate, returning to the leach dumps and the copper-laden blended organic moving to the stripper cells.

In the stripper cells, copper is stripped from the loaded organic by mixing with barren or "lean" aqueous electrolyte from the electrowinning process. The high acid content of the barren electrolyte causes the stripping action. In the stripper cells the now copper-laden, or pregnant electrolyte, is routed to the electrowinning process in the "tank house" while the barren organic is returned to the extractor cells for reuse.

During the electrowinning process, electrical current is passed through the pregnant electrolyte in the tank house cells. Within the cells the pure copper is plated onto cathodes as the copper gains electrons from the current. In order to balance the electron flow, hydrogen ion and oxygen gas are freed at the anode. The hydrogen combines with free sulfates forming more acid in the lean electrolyte. The lean electrolyte is then returned to the stripper cells as described in the paragraph above.

III. EMISSIONS

Representative emissions from the Pinto Valley Operations are presented in the following table. This comparison serves as a summary of existing information on emissions from the mine. These emissions calculations (except allowables) are **not** meant to establish any emission standards.

Table 1:

Activity	Unit (Unit ID)	Pollutant	PTE (tpy) (*)	Allowable (tpy)	Test
Point Sources					
Primary Crushing	Primary Crusher (15DC01)	PM	876	67.63 lb/hr (**)	
		PM-10	87.6		

Activity	Unit (Unit ID)	Pollutant	PTE (tpy) (*)	Allowable (tpy)	Test
	Bin (15DC01)	PM	328.5		
		PM-10	164.3		
Primary Crushing	Conveyor #1 (15DC01)	PM	210		
		PM-10	105		
	Conveyors 2a, 2b, 2c (21DC01)	PM	237		
		PM-10	118		
	3 tyrock screens (22DC03)	PM	59.1		
		PM-10	29.6		
Fine Crushing	Secondary cone crushers (22DC03)	PM	2370	67.63 lb/hr (**)	
		PM-10	237		
	Conveyor #3 (22DC05)	PM	263		
		PM-10	131		
	Conveyor #4 (22DC05)	PM	263		
		PM-10	131		
	Conveyor #5 (22DC05)	PM	263		
		PM-10	131		
	Tertiary surge bin (22DC04)	PM	263		
		PM-10	131		
	Conveyor belts 6a-6f (22DC01, 22DC02)	PM	210		
		PM-10	105		
	6 screens (22DC01, 22DC02)	PM	52.6		
		PM-10	26.3		
	Tertiary crushers (22DC01, 22DC02)	PM	7100		
		PM-10	420		
	Conveyor #7	PM	237		
		PM-10	118		

Activity	Unit (Unit ID)	Pollutant	PTE (tpy) (*)	Allowable (tpy)	Test
	Conveyor #8	PM	237		
		PM-10	118		
Concentrator	Fine ore storage (23DC01)	PM	263	67.63 lb/hr (**)	
Concentrator		PM-10	131		
	Feeder belts 1-12 (23DC02..23DC07)	PM	15.8		
		PM-10	7.88		
	Ball mill feed conveyors 1-6 (23DC02..23DC07)	PM	7.88		
		PM-10	3.94		
Boilers	Boiler WOFD 2750 (Fuel Oil #2/Diesel)	PM	0.04	0.78 lb/hr	
		PM-10	0.02		
		SOx	1.42		
		NOx	0.4		
		CO	0.1		
		VOC	0.007		
	Alt Operating scenario-Natural Gas	PM	0.02		
		PM-10	0.02		
		SOx	0.002		
		NOx	0.27		
		CO	0.22		
		VOC	0.015		
	Alt Operating scenario-Propane	PM	0.02		
		PM-10	0.02		
		SOx	0.0005		
		NOx	0.57		
		CO	0.1		
		VOC	0.015		

Activity	Unit (Unit ID)	Pollutant	PTE (tpy) (*)	Allowable (tpy)	Test
	Boiler WOFD 1500 (Fuel Oil #2/Diesel)	PM	0.04	0.78 lb/hr	
		PM-10	0.02		
		SOx	1.42		
		NOx	0.4		
		CO	0.1		
		VOC	0.007		
Boilers	Alt Operating scenario- Natural Gas	PM	0.02		
		PM-10	0.02		
		SOx	0.002		
		NOx	0.27		
		CO	0.22		
		VOC	0.015		
	Alt Operating scenario- Propane	PM	0.02		
		PM-10	0.02		
		SOx	0.0005		
		NOx	0.57		
		CO	0.1		
		VOC	0.015		
	Boiler (Moly Dryer) (Fuel Oil #2/Diesel)	PM	0.09	1.32 lb/hr	
		PM-10	0.045		
		SOx	3.195		
		NOx	0.9		
		CO	0.225		
		VOC	0.015		

Activity	Unit (Unit ID)	Pollutant	PTE (tpy) (*)	Allowable (tpy)	Test
	Alt Operating scenario-Natural Gas	PM	0.05		
		PM-10	0.05		
		SOx	0.004		
		NOx	0.6		
		CO	0.5		
		VOC	0.033		
	Alt Operating scenario-Propane	PM	0.05		
		PM-10	0.05		
		SOx	0.011		
		NOx	1.27		
Boilers	Alt Operating scenario-Propane	CO	0.21		
		VOC	0.034		
Moly Drying	Moly Dryer	PM	49	82.95 lb/hr (**)	
		PM-10	24.5		
		VOC	0.0096		
NON POINT SOURCES					
Miscellaneous	Material drop operations	PM	801.2		
		PM-10	267		
	Graders	PM	55.6		
		PM-10	18.4		
	Bulldozing	PM	6889.4		
		PM-10	2257.7		
	Abrasive Blasting	PM	0.5		
		PM-10	0.25		
	Haul Roads	PM	4687.3		

Activity	Unit (Unit ID)	Pollutant	PTE (tpy) (*)	Allowable (tpy)	Test
		PM-10	1562.4		
SXEW circuit	SX tanks	VOC	25.64		
	Raffinate pond	VOC	5.55		

***** PTE listed for the different process units are based on AP-42 emission factors.

****** In keeping with the requirements of R18-2-721.B.2, &-D, the allowables in the above table are presented for overall process sources like Primary Crushing Unit, Fine Crushing Unit, Concentrator etc. The material throughputs to the process source is identified and is applied in the process weight rate equation to establish the overall allowable for the process source.

$E = 17.31P^{0.16}$
where:

E= the maximum allowable emissions for the overall process expressed in lb/hr.
P represents the overall material throughput (ton/hr) to the process source.

POINT SOURCE EMISSIONS OF CRITERIA POLLUTANTS (PLANT-WIDE PTE TOTALS)*

Table 2:

POLLUTANT	Total emissions with Diesel/Fuel Oil #2 in fuel burning equipment (tpy)	Total emissions with Natural gas in fuel burning equipment (tpy)	Total emissions with Propane in fuel burning equipment (tpy)
PM-10	2164	2164**(**)**	2164 **(**)**
SOx	6.035	0.008	0.012
NOx	1.70	1.14	2.41
CO	0.425	0.94	0.41
VOC	0.039	0.0726	0.0736

* For major source applicability determinations, only point source emissions are taken into account. (Refer R18-2-101.61(c)). Fugitive emissions, listed previously, are for information purposes only.

** While estimating PM-10 emissions for natural gas and propane combustion, all particulate emissions are assumed to be less than 10 microns in size.

IV. COMPLIANCE HISTORY

A. Inspections

Inspections have been conducted on this source to ensure compliance with the permit conditions. Table 3 summarizes some of the recent inspections that have been conducted on the source and the results of the inspections.

Table 3:

Inspection Date	Type of Inspection	Results
3/18/97: FAR # 17425	Level 2 Inspection	Recommendation made for better handling of fugitive emissions. Overall, the facility was compliant with all applicable permit conditions.
8/23/96 FAR # 15985	Level 1	Inspection was performed to observe the fine ore storage building south end enclosure project. Opacity of dust plumes were estimated to be around 15%.
6/26/96 FAR # 15984	Level 1	Inspection was performed on the fine ore storage building. The curtain for the south side of the building was still under construction. Fugitive dust from the building was estimated to be around 20-30%. For the mining operations, water trucks were used on the haul roads to control fugitive emissions.
3/6/96 FAR # 14984	Level 1	Inspection carried out in response to a citizen complaint about fugitive emissions from the tailing piles. Minimal emissions were observed.
1/17/96 FAR # 14566	Level 1	An opacity measurement of 52.5% was observed for the fine ore storage building. NOV issued.
11/1/95 FAR# 14072	Follow-up	Inspection to observe sealant field testing project. Four sealants were tested on the exterior tailing surface and interior haul roads.
10/5/95 FAR# 13944	Scheduled	Inspection of sealant field testing project.
9/7/95 FAR # 13698	Follow-up	Minimal fugitive dust emissions. Request was made to maintain a log of water truck usage.

Inspection Date	Type of Inspection	Results
7/9/95 FAR # 13515	Scheduled	Meeting to discuss an interim dust control plan for the tailings. Watering could not be done because of the concern that tailing materials could be washed away and also because of a shortage of water supply to spray the tailings exterior.
6/2/95 FAR# 12997	Annual inspection	Plant compliant with all applicable requirements. Issues of concern were the fine particulate leftovers around the primary crusher scrubber and haul road dust emissions.

B. Testing

Testing has not been performed on any of the process sources in the facility.

C. Excess Emissions

There have not been any reports of excess emissions from this source.

V. APPLICABLE REGULATIONS

Table 4 identifies the applicable regulations corresponding to every process unit and also provides verification as to why that standard applies.

Table 4:

Unit/Unit ID	Date of manufacture	Type of control	Applicable Regulations	Verification
Primary crusher (15DC01), Conveyor belts 2a, 2b, 2c(21DC01-1A), Tyrock screens (22DC03-1A), Secondary crushers 1,2, 3 (22DC03-1A), conveyer belts 3,4,5 (22DC05-1A), Tertiary surge bin (22DC04-1A), Tertiary crushers 4,5,6,7,8,9 (22DC01-1A,22DC02-1A), Conveyer belt 8, fine ore storage barn (23DC01-1A), feeder belts 1-12 and ball mill feed conveyors 1-6 (23DC02-1A.. 23DC07-1A), and moly dryer.	Prior to NSPS trigger date.	Wet scrubbers, utilized for all of the processes, are identified by the unit id's referenced in parenthesis.	ADEQ (A.A.C.) *R18-2-702.B* *R81-2-702.E* *R18-2-721.B* *R18-2-721.F* *R18-2-721.H.1.a* Arizona SIP *R9-3-521.A.2*	All these units listed are "affected facilities" as defined by R18-2-721.A. The process weight rate eqn from the Arizona SIP will be the standard because it is more stringent than the requirement in the A.A.C.
Conveyor belt 7 (fine crushing unit)	After NSPS trigger date.	None	CFR's *40 CFR 60.382.a.(2)*	"Affected facility" as defined by Subpart LL.
Boilers (WOFD 2750, WOFD 1500, and moly boiler)	The boilers listed have rated capacities lesser than the NSPS trigger size of 10 MMBtu/hr.	None	ADEQ (A.A.C.) *R18-2-724.C* *R18-2-724.E* *R18-2-724.F* *R18-2-724.G* *R18-2-724.J* *R18-2-724.K.1.C*	All boilers listed have a capacity higher than 500,000 Btu/hr and are hence covered by -724 (Standards for Fossil-fuel fired industrial and commercial equipment.
Electrowinning/ Solvent extraction tank and raffinate pond, & Miscellaneous storage tanks	N/A	None	ADEQ (A.A.C.) *R18-2-730.D* *R18-2-730.F* *R18-2-730.G* *R18-2-730.K*	These units are not covered by any specific existing source standard. They are, hence, regulated as unclassified sources.

Unit/Unit ID	Date of manufacture	Type of control	Applicable Regulations	Verification
Non point sources	N/A	None	ADEQ (A.A.C.) *R18-2-604.A* *R18-2-604.B* *R18-2-605* *R18-2-606* *R18-2-607* *R18-2-608* *R18-2-610*	The regulations listed are applicable to non point sources.
Mobile Sources	N/A	None	ADEQ (A.A.C.) *R18-2-801* *R18-2-804*	These regulations are applicable to all mobile sources.
Other periodic activities (abrasive blasting, spray painting, renovation operations, air conditioner repairs...)	N/A	None	ADEQ (A.A.C.) *R18-2-726 (sand blasting operations)* *R18-2-727 (spray painting operations)* *R18-2-1101.A.8 (NESHAPS for asbestos)* CFR's *40 CFR 82- Subpart F- Protection of Stratospheric ozone.*	Relevant requirements applicable to the periodic activities.

In addition to the requirements already listed, emission units are also subject to requirements from the Pinal-Gila State Implementation Plan (PGSIP). All of these restrictions have equivalent rules in the Arizona State Implementation Plan (AZSIP). The following table provides a comparison of the various PGSIP rules that have been streamlined :

PGSIP	AZSIP
7-3-1.1 (Visible Emissions - General)	R9-3-501 (Visible Emissions - General)
7-3-1.2 (Fugitive Dust)	R9-3-404, -405, -406 (Open Areas, Roadways, Material handling)
7-3-1.8 (Process Industries)	R18-2-521(A) (Standards for Existing Nonferrous Metals Industry Sources)

VI. PREVIOUS PERMIT CONDITIONS

Table 5 outlines the permits that have been issued to the source. Table 6 cross references the previous permit conditions to their location in the new permit. If a condition from the previous permit is deleted or if a new standard becomes applicable, comments are provided explaining the reasoning for the same.

Table 5:

Date Permit Issued	Permit #	Application Basis
5/24/85	0338-86	Operating Permit
-	070410P1-99	Operating Permit- Application withdrawn
-	1000565	Minor permit revision- Application withdrawn
4/28/97	1000574	Permit Transfer

Table 6:

Operating permit # 0338-86

Permit condition #	Determination				Comments	Condition # in current permit
	Delete	Kept	Revise	Streamline		
Att A.I			x		Will be incorporated under "Compliance with permit requirements".	Att A.II
Att A.II			x		Specific applicable requirements will be outlined in Att B of the new permit.	Att B
Att A.III			x		Excess emissions/permit deviations reporting	Att A.XII

Att A.IV		x			Entry & Inspection	Att A.IX
Att A.V	x				Permit transfers	
Att A.VI		x			Posting of permit	Att A.IV
Att A.VII		x			Permit revocations	Att A.III
Att A.VIII		x			Permit violations- will be incorporated under "Compliance with permit requirements"	Att A.II
Att A.IX		x			Permit renewal	Att A.I

VII. PERIODIC MONITORING REQUIREMENTS

A. Periodic monitoring for stack emissions from process sources subject to the SIP standards

Permittee shall establish a baseline opacity level for all the point sources in the facility when all the equipment and air pollution control devices are in good working order. This baseline level shall be regarded as an indirect indicator of the particulate emissions from the facility. Permittee shall conduct a bi-weekly survey of all the point sources in the facility. If the results from the visible survey exceed the baseline levels (or the 40% opacity standard), Permittee shall make a Method 9 measurement. If this Method 9 reading is in excess of the baseline level but less than the 40% opacity standard, Permittee shall take corrective action to bring down the emissions to an acceptable level. If the Method 9 reading is in excess of both the baseline level and the 40% opacity standard, Permittee shall take suitable corrective action and report it as an "Excess Emission" for opacity.

B. Periodic Monitoring for fugitive emissions from process sources

Permittee is required to conduct a bi-weekly visual survey of the fugitive emissions from the process sources in the facility. If any observation appears to exceed the opacity standard, Permittee shall conduct and record a proper Method 9 observation. If this observation is in excess of the opacity standard, suitable corrective action shall be taken and also reported to the agency as an "Excess Emission". The methodology will be the same for both the NSPS and SIP units, except for the fact that the NSPS fugitive emission limit is 10% and the SIP limit is 40%.

C. Opacity monitoring for boilers

Permittee shall be required to contain monthly surveys of visible emissions from the boiler stacks. If any observation appears to exceed the opacity standard, Permittee shall conduct and record a proper Method 9 observation. If this observation is in excess of the opacity standard, suitable corrective action shall be taken and also reported to the agency as an "Excess Emission".

D. Non-Point Sources Monitoring Requirements

Non-point sources are subject to the 40% opacity standard and other Article 6 requirements. Periodic monitoring for opacity standard entails a bi-weekly visible emissions survey in accordance with an ADEQ - approved observation plan, by a certified Method 9 observer. If the visible emissions survey indicates that a Method 9 reading may be required, the observer shall do so, and maintain records of the results. Any observed exceedance of the opacity standard should be reported appropriately.

Article 6 regulations also contain applicable requirements for non-point source emissions. These regulations require the Permittee to employ various control methods to suppress particulate emissions. The permit lists the various methods of dust suppression that may be used. By not restricting the Permittee to use only one of the methods, the permit provides the flexibility required to facilitate employment of effective control measures. Periodic monitoring data for these applicable requirements is generated in two ways by this permit :

(i) the bi-weekly visual opacity observations conducted as monitoring for the 40% opacity standard will provide data that can be used to investigate the level of particulate emissions from non-point sources during a compliance timeframe.

(ii) the Permittee is required to maintain a record of the kind of control measures that were employed to suppress particulate emissions. This periodic monitoring requirement is specified in the "Non Point Sources" section of Attachment B of the permit. In recognition of the fact that this requirement may sometimes be highly paper-intensive and result in reduced flexibility of operations, the permit provides an alternative that the Permittee may maintain a Non-Point Source Monitoring Plan that serves as a record of the control measures that were employed by the Permittee to mitigate dust emissions from non-point sources. To satisfy its function as a monitoring tool, the Non-Point Source Monitoring Plan should contain some minimum elements of information such as :

(1) Types of control measures employed on an activity-specific basis;
(2) Frequency of application of control measures;

(3) A system for logging variations from the strategy outlined in the Non-Pont Source Monitoring Plan

The Non-Point Source Monitoring Plan has to be submitted as part of the initial application, and will undergo public and EPA review along with the rest of the permit. If the Permittee fails to submit the Non-Point Source Monitoring Plan along with the initial application, the Permittee will be require to comply with the monitoring requirements, till such time that a significant revision is processed to allow the Permittee to avail of the Monitoring Plan. As part of the significant revision procedures, the Non-Point Source Monitoring Plan will undergo public and EPA review.

It should be noted that the Non-Point Source Monitoring Plan is a monitoring tool. Additions to methods listed in the original Non-Point Source Monitoring Plan need to be notified to the Director. These notifications will have to be recorded in the Non-Point Source Monitoring Plan by the Permittee, and will also be added to the copy of the Non-Point Source Monitoring Plan that is maintained at ADEQ. There is one situation where prior approval from the Director is required. The permit lists a series of "reasonable precautions" that may be employed by the Permittee. If the Permittee desires to use a new method, prior approval for usage of this mechanism has to be obtained from the Director. Once approval is granted, the Permittee can initiate usage of the method, and record its usage in the Non-Point Source Monitoring Plan.

VIII. TESTING REQUIREMENTS

A. As a permit condition, Permittee shall be required to perform testing on different process sources over the course of the permit term in accordance with the following schedule.

First year: Primary crushing unit- 15DC01 and 21DC01-1A
Second year: Fine Crushing Plant- 22DC01-1A through 22DC05-1A
Third year: Concentrator- 23DC01-1A and two representative stacks from 23DC02-1A through 23DC07-1A
Fourth year: Moly drying Unit

The mine is not being operated at this time because of the low price of copper and the depletion of available copper ore in the Pinto Valley mine. Consequently with this uncertainty regarding the mine operation, permit requirements for testing of process sources will be applicable only if the mine is operative at that time. During periods of non-operation of the mine, periodic monitoring will be deemed sufficient to monitor compliance with applicable permit requirements.

The testing will be performed based on a "representative sampling" concept for identical process units within a process source. Emissions estimated for individual process units will be aggregated to obtain overall emissions for the process source. This overall value shall be compared with the "maximum allowables" established for that process source using the Process weight equation from A.A.C. R18-2-721.B.

B. Permittee shall also be required to perform an annual opacity test on all the wet scrubbers in the facility in addition to the bi-weekly periodic monitoring. The reason for this requirement being the fact that there could be times when just a visual survey was performed and the Method 9 observations were not necessitated.

VIII. INSIGNIFICANT ACTIVITIES

The applicant has requested the following activities to be deemed as "insignificant". According to A.A.C. R18-2-101.54, for an activity to be deemed "insignificant", there should be no applicable requirement for the activity. This was the basis used to determine if the activities in the following list qualify as an "insignificant" activity under Arizona law.
The following table is intended to indicate those activities to which applicable requirements apply, although emissions are presumed small enough that emissions calculations are not required.

Table 7:

Insignificant activity	Yes/No	Reason
1300 gal Diesel fuel tank-PVO #1 Seepage Dam (S120 W19320)	Yes	R18-2-101.54(c)
10,000 gal Lube oil tank -PVO Area 1A (N 975 W 14600)	Yes	R18-2-101.54(c)
16,000 gal Diesel fuel tank- PVO Primary Crusher (N 1625 W 14450)	Yes	R18-2-101.54(c)
16000 gal Diesel fuel tank - PVO Primary Crusher (N 1625 W 14450)	Yes	R18-2-101.54(c)
1700 gal Waste oil tank- PVO fine crusher (N 125 W 13965)	Yes	R18-2-101.54(j)
1150 gal lube oil tank- PVO Primary Crusher (N 1300 W 14650)	Yes	R18-2-101.54(j)
95200 gal organic tank- PVO SXEW (N 4800 W 20950)	Yes	R18-2-101.54(j)
11,400 gal kerosene tank- PVO SXEW (N 4800 W 20950)	Yes	R18-2-101.54(j)
95200 gal holding tank- PVO SXEW (N 4800 W 20950)	No	R18-2-730.D,F, &G

Insignificant activity	Yes/No	Reason
15200 gal gunk tank- PVO SXEW (N 4800 W 20950)	No	R18-2-730.D.F,&G
10000 gal lube oil tank- PVO Area 1A (N 975 W 14600)	Yes	R18-2-101.54(j)
550 gal Diesel tank- PVO Shop site (S475 W 14525)	Yes	R18-2-101.54(c)
10000 gal Diesel tank- Old mill- SW energy (N 4737 E 10642)	Yes	R18-2-101.54(c)
10000 gal Diesel tank- Old mill- SW energy (N 4737 E 10642)	Yes	R18-2-101.54(c)
1400 gal Diesel tank- Old mill- SW energy (N 4737 E 10642)	Yes	R18-2-101.54(c)
16000 gal Diesel tank- PVO mine pit	Yes	R18-2-101.54(c)
16000 gal Diesel tank- PVO mine pit	Yes	R18-2-101.54(c)
8300 gal Diesel tank - PVO empty oil drum storage (N 1613 W 15330)	Yes	R18-2-101.54(c)
10000 gal Diesel tank - PVO fine crusher (N 25 W 13350)	Yes	R18-2-101.54(c)
6600 gal lube oil tank- PVO fine crusher (N 125 W 14000)	Yes	R18-2-101.54(j)
6000 gal gasoline tank- PVO fuel station (N 1613 W 15330)	Yes	R18-2-101.54(b)
3000 gal waste oil tank- PVO fuel station (N 1613 W 15310)	Yes	R18-2-101.54(j)
300 gal Diesel tank- PVO grease pit truck wash (N 3600 W 17375)	Yes	R18-2-101.54(c)
10000 gal lube oil tank - PVO grease pit (N3800 W 17330)	Yes	R18-2-101.54(j)
10000 gal lube oil tank- PVO grease pit (N3777 W 17330)	Yes	R18-2-101.54(j)
500 gal lube oil tank- PVO grease pit (N 3764 W 17330)	Yes	R18-2-101.54(j)
1500 gal lube oil tank- PVO grease pit (N3764 W 17346)	Yes	R18-2-101.54(j)
5000 gal waste oil tank- PVO grease pit (N 3785 W 17360)	Yes	R18-2-101.54(j)
2000 gal Diesel fuel tank- PVO mill change room (S 1100 W 13550)	Yes	R18-2-101.54(c)
2000 gal Diesel fuel tank- PVO change room (S 925 W 15425)	Yes	R18-2-101.54(c)
1000 gal lube oil tank- PVO primary crusher (N 1300 W14560)	Yes	R18-2-101.54(j)
350 gal Diesel fuel tank- PVO slurry pumphouse (S2755 W 14300)	Yes	R18-2-101.54(c)
500 gal Diesel fuel tank- PVO shop site (S 475 W 14525)	Yes	R18-2-101.54(c)
300 gal Diesel fuel tank- PVO truck wash (N25 W 15250)	Yes	R18-2-101.54(c)
30,400 gal Kerosene tank- PVO SXEW (N 4800 W 20950)	Yes	R18-2-101.54(j)

Insignificant activity	Yes/No	Reason
1000 gal Diesel fuel tank- #2 Tailings impoundment (N5800 W 18940)	Yes	R18-2-101.54(c)
2000 gal lube oil tank- PVO grease pit (N 3700 W 17200)	Yes	R18-2-101.54(j)
1000 gal Diesel fuel tank- S of mill change room (S 1100 W 13550)	Yes	R18-2-101.54(c)
3000 gal lube oil tank- PVO primary crusher (N 975 W 14600)	Yes	R18-2-101.54(c)
3000 gal lube oil tank- PVO primary crusher (N 975 W 14600)	Yes	R18-2-101.54(c)
3000 gal lube oil tank- PVO primary crusher (N 975 W 14600)	Yes	R18-2-101.54(c)
3000 gal lube oil tank- PVO primary crusher (N 975 W 14600)	Yes	R18-2-101.54(c)
10000 gal lube oil tank- PVO grease pit (N 3790 W 17330)	Yes	R18-2-101.54(c)
350 gal solvent tank- PVO grease pit (N 3750 W 17325)	No	R18-2-730.D,F, & G
200 gal Diesel fuel tank- PVO canyon dam (N 10000 W 24500)	Yes	R18-2-101.54(c)
10000 gal grease tank- PVO grease pit (N 3650 W 17200)	No	R18-2-730.D,F, &G
13800 gal recirculation tank- PVO SXEW (N 4800 W 20950)	No	R18-2-730.D,F,&G
500 gal xanthate tank- PVO mill top floor (S 520 W 13750)	No	R18-2-730.D,F,&G
500 gal dow froth tank- PVO mill top floor (S 520 W 13750)	No	R18-2-730.D,F,&G
500 gal CY7025 tank- PVO mill top floor (S 520 W 13750)	No	R18-2-730.D,F,&G
500 gal moly collector tank- PVO mill top floor (S 520 W 13750)	No	R18-2-730.D,F,&G
Cu/moly concentrate - PVO moly mill (S 379 W 13835)	No	R18-2-730.D,F,&G
Copper concentrate tank- PVO Cu thickener (S315 W14050)	No	R18-2-730.D,F,&G
Final product thickener- PVO Mill (S225 W13850)	No	R18-2-730.D,F,&G
70000 Surge daytank- PVO mill (S225 W 13850)	No	R18-2-730.D,F,&G
100000 gal milk of lime tank- PVO lime plant (S 125 W 13850)	No	R18-2-730.D,F,&G
100000 gal milk of lime tank- PVO lime plant (S 125 W 13850)	No	R18-2-730.D,F,&G
9000 gal ammonium sulfide tank- PVO reagent building (S25 W 13925)	No	R18-2-730.D,F,&G
6000 gal cyanamide tank- PVO tail thickeners (N 475 W 14750)	No	R18-2-730.D,F, G, & J
Slurry tank- PVO slurry pumphouse (S 305 W 14225)	No	R18-2-730.D,F,&G
Slurry tank- PVO slurry pumphouse (S 305 W 14225)	No	R18-2-730.D,F,&G

Insignificant activity	Yes/No	Reason
Water tank- PVO slurry pumphouse (S 214 W 14310)	Yes	R18-2-101.54(j)
103,700 gal fire water tank- PVO above landfill (N 6235 W 18465)	Yes	R18-2-101.54(j)
12700 gal backwash tank- PVO SXEW (N 4800 W 20950)	No	R18-2-730.D,F,&G
10100 gal filterfeed tank- PVO SXEW (N 4800 W 20950)	No	R18-2-730.D,F,&G
13500 gal electrolyte tank- PVO SXEW (N 4800 W 20950)	No	R18-2-730.D,F,&G
1200 gal liquid propane tank- PVO SXEW (N 4625 W 21050)	No	R18-2-730.D,F,&G
6000 gal acid tank- PVO SXEW (N 4375 W 21225)	No	R18-2-730.D,F,&G
6000 gal acid tank- PVO SXEW (N 4375 W 21225)	No	R18-2-730.D,F,&G
525 gal antifreeze/water tank- PVO grease tank (N 2600 W 16930)	No	R18-2-730.D,F,&G
16000 gal water tank- PVO grease pit (N2600 W 16930)	Yes	R18-2-101.54(j)
10000 gal water tank- PVO grease pit (N2600 W 16930)	Yes	R18-2-101.54(j)
10000 gal water tank- PVO grease pit (N 2600 W 16930)	Yes	R18-2-101.54(j)
500 gal Dow froth tank- PVO mill top floor (S 520 W 13750)	No	R18-2-730.D,F,&G
Cu/moly concentrate- PVO moly mill (S 379 W 13835)	No	R18-2-730.D,F,&G
Storage tank (contents unknown)- PVO mill (S225 W 13850)	No	R18-2-730.D,F,&G
9000 gal Dow froth tank- PVO reagent building (S25 W 13925)	No	R18-2-730.D,F,&G
9000 gal ammonia sulfide tank- PVO reagent building (S25 W13925)	No	R18-2-730.D,F,&G
9000 gal Oreprysx13 tank- PVO reagent building (S25 W13925)	No	R18-2-730.D,F,&G
9000 gal cy7025 tank- PVO reagent building (S25 W13925)	No	R18-2-730.D,F,&G
9000 gal Flotzol 150 tank- PVO reagent building (S25 W13925)	No	R18-2-730.D,F,&G
9000 gal Xanthate tank- PVO reagent building (S25 W13925)	No	R18-2-730.D,F,&G
6000 gal caustic soda tank- PVO reagent building (S50 W 13950)	No	R18-2-730.D,F,&G
3000 gal CY 7025 soda tank- PVO reagent building (S50 W 13950)	No	R18-2-730.D,F,&G
3000 gal tank- PVO reagent building (S50 W 13950)	No	R18-2-730.D,F,&G
1700 gal xanthate tank- PVO reagent building (S50 W 13950)	No	R18-2-730.D,F,&G
1700 gal xanthate tank- PVO reagent building (S50 W 13950)	No	R18-2-730.D,F,&G

Insignificant activity	Yes/No	Reason
1500 gal sodium cyanide tank- PVO reagent building (S50 W 13950)	No	R18-2-730.D,F,G,& K
Dry lime storage tank- PVO Lime plant (S50 W 13800)	No	R-18-730.D,F, &G
Dry lime storage tank- PVO Lime plant (S50 W 13800)	No	R-18-730.D,F, &G
Concentrate storage tank- PVO tail thickeners (N475 W 14750)	No	R18-2-730.D,F,&G
Concentrate storage tank- PVO tail thickeners (N475 W 14750)	No	R18-2-730.D,F,&G
Concentrate storage tank- PVO tail thickeners (N475 W 14750)	No	R18-2-730.D,F,&G
Mill water storage tank- PVO slurry pumphouse (S 260 W 14415)	Yes	R18-2-101.54(j)
Mill water storage tank- PVO slurry pumphouse (S405 W14415)	Yes	R18-2-101.54(j)
15000gal water tank- PVO#3 tails	Yes	R18-2-101.54(j)
8000 gal ammonium nitrate tank- Old mill-SW energy	No	R18-2-730.D,F,&G
12000 gal ammonium nitrate tank- Old mill-SW energy	No	R18-2-730.D,F,&G
12000 gal ammonium nitrate tank- Old mill-SW energy	No	R18-2-730.D,F,&G
12000 gal anhydrous ammonia tank- PVO above primary crusher	No	R18-2-730.D,F,&G
2100 gal electrolyte filter- PVO SXEW (N 4800 W 20950)	No	R18-2-730.D,F,&G
6500 gal Floc 852 tank- PVO tail thickeners (N 475 W 14750)	No	R18-2-730.D,F,&G
16000 gal liq nitrogen- PVO mill (S 225 W 13850)	No	R18-2-730.D,F,&G
4000 gal anti-scalant- PVO slurry pumphouse (S405 W14415)	No	R18-2-730.D,F,&G
water tank- PVO upper catchment	Yes	R18-2-101.54(j)
water tank- PVO upper catchment	Yes	R18-2-101.54(j)
1000 gal liquid propane tank- PVO shop site (S425 W 14525)	No	R18-2-730.D,F,&G
10,200 gal domestic water tank- PVO above landfill (N6205 W 18440)	Yes	R18-2-101.54(j)
1270 gal slurry tank- PVO SXEW pit	No	R18-2-730.D,F,&G
9000 gal aeroflote tank- PVO reagent building (S25 W 13925)	No	R18-2-730.D,F,&G
9000 gal caustic soda tank- PVO reagent building (S25 W 13925)	No	R18-2-730.D,F,&G
6500 gal antiscalant tank- PVO slurry pumphouse (S 405 W 14415)	No	R18-2-730.D,F,&G

Insignificant activity	Yes/No	Reason
Service water tank- PVO slurry pumphouse (S445 W 14310)	Yes	R18-2-101.54(j)
Potable water tank- PVO R.O. Plant (S1252 W 15525)	Yes	R18-2-101.54(j)
Feed water tank- PVO R.O. plant (S 1230 W 15525)	Yes	R18-2-101.54(j)
250 gal liquid propane tamk- PVO guard gate (S 1050 W 15175)	No	R18-2-730.D,F,&G
5000 gal floc tank- PVO tail thickeners (N 475 W 14750)	No	R18-2-730.D,F,&G
250 gal liquid propane tank- PVO mill (S 575 W 13575)	No	R18-2-730.D,F,&G
6500 gal anti-scalant tank- PVO mill (N 475 W 14750)	No	R18-2-730.D,F,&G
525 gal acid water tank- PVO R.O. Plant (S1252 W 15525)	No	R18-2-730.D,F,&G
500 gal acid water tank- PVO R.O. Plant (S1252 W 15525)	No	R18-2-730.D,F,&G
110,000 gal potable water tank- PVO above primary crusher	Yes	R18-2-101.54(j)
676000 gal service water tank- PVO above primary crusher	Yes	R18-2-101.54(j)
Concentrate cleanup activities	No	R18-2-730.D,F,&G
Pregnant leach solution pond	No	R18-2-730.D,F,&G
SX/EW stormwater pond	No	R18-2-730.D,F,&G
Dump leaching	No	R18-2-730.D,F,&G
Thickening tanks	No	R18-2-730.D,F,&G
Stinger boom trucks	No	R18-2-801
Loaders	No	R18-2-801
Watering trucks	No	R18-2-801
Forklifts	No	R18-2-801
Backhoes	No	R18-2-801
Lube service trucks	No	R18-2-801
Cranes	No	R18-2-801
Traffic on paved roads	No	R18-2-605
Storage piles	No	R18-2-605
Wind blown dust	No	R18-2-605